



**Statement before the Committee of Homeland Security,
Subcommittee on Management, Integration, and Oversight
House of Representatives**

***“Improving the National Response to
Catastrophic Health Emergencies: The Role of
the New DHS Chief Medical Officer”***

A Statement by

**David Heyman
Senior Fellow and Director
Homeland Security Program
The Center for Strategic and International Studies (CSIS)**

**October 27, 2005
Cannon House Office Building**

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Mr. Chairman and other distinguished Members of the committee,

Thank you for the opportunity to testify before the committee today to discuss improving the national response to catastrophic health emergencies and, specifically, the role of the new chief medical officer at the Department of Homeland Security.

I also want to thank Ambassador Bob Stuart who had the foresight and has generously helped support much of CSIS' work in this area.

Greater national leadership in biodefense was one of the recommendations of the task force co-chaired by myself, on behalf of The Center for Strategic and International Studies, and Jim Carafano, of The Heritage Foundation. The task force's report, *DHS 2.0: Rethinking the Department of Homeland Security*, evaluated the department's capacity to fulfill its mandate as set out in the Homeland Security Act of 2002.

¹ The Center for Strategic and International Studies provides strategic insights and practical policy solutions to decision makers committed to advancing global security and prosperity. Founded in 1962 by David M. Abshire and Admiral Arleigh Burke, CSIS is a bipartisan, non-profit organization headquartered in Washington, D.C with more than 220 employees. Former U.S. Senator Sam Nunn became chairman of the CSIS Board of Trustees in 1999, and John J. Hamre has led CSIS as its president and chief executive officer since April 2000. More information is available at www.csis.org.

In evaluating the new role of chief medical officer, I would like to first discuss the new context that shapes catastrophic medical emergencies today. Second, I will review the recommendations the task force made related to the chief medical officer and our nation's ability to respond to these type of emergencies. Third, I would like to discuss the areas in which greater leadership in the federal government would enhance our nation's ability to prepare for and respond to catastrophic medical emergencies. Fourth, and finally, I would like to recommend actions the Chief Medical Officer at DHS might consider in regard to the possibility of a pandemic flu outbreak.

A New Context – Catastrophic Medical Emergencies

To understand the challenges we face protecting public health today, we must appreciate some of the changes that have evolved over the past fifty to seventy years in terms of health risks and health care.

First, the 20th century was a period that ushered in the era of preventive medicine. In this period, we saw the development of a number of techniques and medicines including vaccines, antibiotics and other medical interventions that could be employed not only to prevent disease, but also to reduce its lethal effects. Preventive medicine has become the dominant model within which health care is delivered today.

Second, beginning in the 1980s, we saw principles of “just-in-time” manufacturing applied to health care and hospitals, to reduce costs and increase revenue in increasingly privatized health care systems. This led to a reduction in the overall number on average of *available* beds and health care services. It also created a health infrastructure that thrives on efficiency, at the expense however, of surge capacity.

Coincidentally, at the same time, we began witnessing the emergence of nearly two dozen novel infectious disease-causing pathogens, and increased microbial resistance to antibiotics in some known pathogens. This meant diseases are cropping up that are not necessarily amenable to our standard twentieth-century interventions.

And finally, more recently, we have experienced the advent of catastrophic terrorism, the deliberate release of *Bacillus anthracis*, and the fear that the world's deadliest weapons—nuclear, biological, and chemical—may be acquired and used by terrorists.

The implication of all of these developments is that whereas preventive medicine and its aspirations to eliminate infectious disease was the focus of the 20th century, responsive health care may be increasingly required at the beginning of the 21st century to manage new health risks.

What I mean by and what I am calling “responsive health care” is the ability to quickly develop new vaccines or medicine to apply to newly emerging diseases, combined with rapidly delivering health care services to possibly large populations in short order. In a world of newly emerging and possibly deliberately spread biological threats, we may no longer aspire to eliminate these threats, we will have to manage them.

We saw the seeds of responsive health care applied in New York in September 2001; we see the need for it in large-scale hurricanes and natural disasters; and we saw it in Washington DC when the city government had to dispatch antibiotics to 40,000 individuals who were potentially at risk of contracting anthrax. We may yet see the greatest need for responsive health care if the H5N1 avian influenza virus mutates to become transmissible among humans around the world.

Why DHS 2.0?

Before I discuss our recommendation for greater national leadership in biodefense, I would like to share with the committee our rationale for undertaking the CSIS/ Heritage study where this recommendation comes from, and why the task force urged Congress and the department’s new leadership to consider adopting the recommendations of the report.

When we wrote the *DHS2.0* report last year, we had learned much over the intervening three years since the 9/11 attacks. We had come to understand that the age when only great powers can bring great powers to their knees is over and that the specter of catastrophic terrorism that could threaten tens-of-thousands of lives and hundreds-of-billions of dollars in destruction will be an enduring concern.

Our review of the initial conception for the DHS in the Homeland Security Act suggested that the department’s original organization did not reflect these realities well. Additionally, since its creation, whether one looks at the department’s capacity to organize and mobilize a response to a catastrophic terrorist attack or at the international dimension of DHS programs, the department had been slow to overcome the obstacles it faced in becoming an effective 21st century national security instrument.

Fundamentally, a new threat environment requires a new approach to security. A nimble, highly adaptive adversary necessitates a bureaucracy that must also be flexible and responsive to a constantly changing threat. Experience with the creation of the Department of Defense reminds us that it takes only a few years for bureaucracies to become entrenched. And thus we must attempt to correctly structure them at the beginning or live with the mistakes for a long time.

The proposals related to biodefense were developed by a task force with members from academia, research centers, the private sector, and Congress and chaired by homeland security experts at The Center for Strategic and International Studies and The Heritage Foundation. Based on analysis, seminars, an extensive literature search, and interviews, the task force developed 40 major recommendations for improving the oversight, organization, and operation of DHS.

The findings and recommendations of the task force can be found on CSIS' web site at:

http://www.csis.org/media/csis/pubs/041213_dhsv2.pdf

The Need for National Leadership on Biopreparedness and Biodefense

One of the taskforce recommendations was for the government to clarify authorities and national leadership roles for biodefense by establishing and empowering a lead executive.

Today that need is still great. Despite a presidential directive² that provides a comprehensive framework³ to forge a national system to protect us against future biological attacks; and despite specific descriptions of roles and responsibilities for the multitude of federal agencies involved in bio-defense, the directive fails to resolve the largest shortcoming in our bio-defense strategy—lack of a single authoritative federal entity to ensure national leadership and coordination for biopreparedness and biodefense.

None of the federal entities discussed in the directive have overall responsibility across all aspects of bio-defense, and none has the mandate or authority to reconcile competing agendas and capabilities across the entire spectrum of federal resources or national interests. Without coordinated federal leadership, states lack measures to assess their own readiness plans, our national surveillance system devolves into a patchwork of state systems, surge capacity is limited and international coordination becomes ad hoc, agency by agency.

A key – and unique – mission of the Department of Homeland Security is leading national—not just federal—efforts to protect, prepare for and respond to possible attacks and other emergencies like the 9/11 terrorist attacks. National

² See “Biodefense for the 21st Century” at <http://www.whitehouse.gov/homeland/20040430.html>

³ HSPD-10 describes four key elements of the president's strategy: bolstering our nation's threat awareness, which includes biological weapons-related intelligence, vulnerability assessments and anticipation of future threats; strengthening prevention and protection capabilities, which includes interdiction and critical-infrastructure protection; improving surveillance and detection, which includes attack warning and attribution; and expanding response and recovery capacity, which includes response planning, mass casualty care, risk communication, medical countermeasures and decontamination.

biodefense preparedness and response includes naturally occurring and deliberate attacks and requires the involvement of a wide range of Federal departments and agencies—the Department of Health and Human Services (HHS, which includes the Public Health Service, the Centers for Disease Control, and the National Institutes of Health), the U.S. Department of Agriculture (USDA), and the Department of Defense (DoD).

Until the recent adoption of a new Preparedness Directorate at the DHS, even within just the Department of Homeland Security, the range of departmental elements with some role in preparing for and responding to biological attacks is widespread. Referring in some cases below to their pre-Preparedness Directorate names, they include:

- (1) The DHS Emergency Preparedness & Response (EP&R) Directorate. This Directorate is primarily the Federal Emergency Management Agency (FEMA), but it also includes within it certain efforts to coordinate with state, local, and private entities on preparing for disasters, including terrorist attacks.
- (2) The Infrastructure Protection (IP) piece of the DHS Information Analysis and Infrastructure Protection (IAIP) Directorate. The job of IP is to identify critical infrastructure warranting protection, prioritize efforts, and work with state, local, and private entities to secure this infrastructure.
- (3) The DHS Office of State and Local Government Coordination and Preparedness (OSLGCP). This entity – the product of merging the Office of State and Local Coordination, and the Office of Domestic Preparedness – works with state and local governments on identifying needs, coordinating efforts, and doling out DHS grant money for critical infrastructure protection and preparedness.
- (4) The Office of Private Sector Liaison. This office has primarily been an ombudsman for private efforts to influence DHS policy in various areas, but it conceivably could be a forum for working with the private sector on critical infrastructure protection and preparedness for attacks.
- (5) The Science and Technology Directorate Office of WMD Operations and Incident Management (WMDO-IM). This new office, within the S&T Directorate, is intended to provide rapid scientific and technical expertise and decision-making in response to WMD attacks and incidents.
- (6) The Assistant Secretary for Plans, Programs, and Budgets develops the R&D agenda for biodefense countermeasures, which is executed by the Office of Research and Development and the Homeland Security Advanced Research Projects Agency.

The Secretary of Homeland Security, as the principal Federal official for domestic incident management, is responsible for coordinating domestic Federal operations to prepare for, respond to, and recover from biological weapons attacks and natural disasters. Nonetheless, the task force concluded that the ability of the DHS Secretary to lead in this regard was hampered not only by the

absence of clear leadership in biodefense, but also by the fragmentation of key responsibilities both within and outside DHS, among a number of entities.

The task force recommended both a greater consolidation of authorities for biodefense and medical response to catastrophic terrorism to support a more efficient and coordinated federal response, and also consolidation of a number of preparedness functions that were fragmented across the department into one directorate. (These recommendations have now been adopted by the Department and supported by Congress.)

The Role of the New Chief Medical Officer

Following his second stage review⁴, DHS Secretary Michael Chertoff consolidated all the Department's existing preparedness efforts—including planning, training, exercising and funding—into a single directorate led by an under secretary for preparedness. Further, as part of his consolidated preparedness team, he created the position of a chief medical officer within the preparedness directorate to be his principal advisor on medical preparedness and lead representative to coordinate with DHS federal partners and state governments.

The chief medical officer and his team, the Secretary has said, will have primary responsibility for working with HHS, Agriculture, and other departments in completing comprehensive plans for executing our responsibilities to prevent and mitigate biologically-based attacks on human health or on our food supply.

First, let me commend Secretary Chertoff and the Department for creating the position and those in Congress for supporting it. This is clearly much-needed and well-founded.

The question is what specific roles will the CMO play.

As I have described earlier, the new chief medical officer faces a number of challenges that will require urgent attention. I believe if you consider the breadth of responsibilities, however, that his role should be more one of a *Chief Health Officer* than a medical officer, as he must help guide the Department in far more than medical advice, to include for example navigating health care systems, understanding disease surveillance, or advising on waste disposal, sanitation and decontamination.

As described by Secretary Chertoff, the role of Chief Medical Officer is primarily to provide much-needed leadership at the Department—and perhaps even more

⁴ See Secretary Chertoff remarks on second stage review at:
http://www.dhs.gov/dhspublic/interapp/speech/speech_0255.xml

so across the federal government—to prepare for catastrophic health emergencies, and to provide guidance to leadership in times of crisis.

In particular, there are four specific areas where clear leadership is needed today:

1. Leadership in Providing Sound Scientific, Medical, and Public Health Advice

The chief medical officer should be the principle advisor to the secretary, providing scientific, public health, and medical advice.

While DHS has responsibility for preparedness and response to natural disasters, as well as biological, chemical, radiological, or nuclear weapon attacks—all of which would require a health care response—biological outbreaks, whether naturally occurring or deliberate, present a special case. Occurrences of outbreaks are highly variable and often unpredictable. They can originate from a diversity of pathogens; they can be naturally occurring or deliberate; they can crop up in cities of any size; and they can occur among peoples with wide-ranging customs, social habits and lifestyles. Each of these factors affect how a disease spreads, and thus, to the extent possible, must also figure into strategies to detect and halt the transmission of a disease.

Similarly, strategies for controlling the spread of disease must rely on the medical countermeasures available, on the ability of our health care systems to provide services, and on the coordinated support of a number of federal, state, local, and private sector actors.

Decisions at DHS regarding preparedness and emergency response programs must be based at a minimum on expert scientific advice; the epidemiologic features of the disease; and knowledge of resources available for deployment.

2. Leadership in Developing Greater Situational Awareness

The chief medical officer should be the principle architect for providing the secretary with greater situational awareness of both biological threats (threats) and health care preparedness (vulnerabilities).

The speed at which a public health threat can be detected and characterized, and health care services and/ or medical countermeasures deployed is critically important. The faster and more effectively this is accomplished, the quicker response and containment efforts can be employed, resulting in fewer casualties.

Situational awareness, both of emerging biological threats and of health care readiness, requires timely, complete actionable information—both of our national and the international health disposition, and of the state of health care preparedness (e.g., countermeasure inventories, protective gear, medical and isolation services available, plans, etc). Greater situational awareness will allow for better operational decision-making that is critical for providing early-warning, deploying assets and protecting public health.

This capability, which largely does not exist even within a public health community, will be critical to effective management of a terrorist biological attack or a natural disease outbreak whose spread, taking advantage of modern transportation systems, can be much more rapid than previously in the past.

3. Leadership in Integrating Federal, State, Local, and Private Sector Elements.

The chief medical officer should provide a focal point in the federal government for development and implementation of a national strategy to protect against biological events.

Homeland Security Presidential Directive-10 (HSPD-10) rightly says that “defending against biological weapons attacks requires us to further sharpen our policy, coordination, and planning to integrate the bio-defense capabilities that reside at the Federal, state, local, and private sector levels.” Who today is ultimately in charge of developing and implementing the national strategy? Who makes sure that all of the diverse components of bio-defense—from threat analysis to research and development of countermeasures, to crisis detection, response and recovery—are fully integrated? A clearly empowered federal authority to provide national leadership and a focal point on the spectrum of issues related to securing America against biological events is needed today.

4. Leadership Supporting Public Education/ Public Preparedness

The chief medical officer, in close coordination with HHS officials, should establish and lead outreach efforts to educate citizens on steps to prepare for and protect their health during catastrophic health emergencies.

Public action in anticipation of and in response to a health crisis can help mitigate casualties and speed recovery, or it can cause panic and hasten the spread of disease. Today, the public has little to no knowledge of when it is appropriate to shelter-in-place versus evacuate. They have equally little knowledge of the steps they can take to reduce the likelihood of exposure to disease. The public must be engaged as a partner, particularly when it

comes to protecting the public health. Individuals empowered with the knowledge to enhance their safety and help limit the spread of disease, can reduce the need for admittedly scarce resources to be required for providing health care to them, when and if an outbreak occurs.

The Special Case of Avian Flu

The increased concern and possible risk of a pandemic flu provides a special case that urgently calls for leadership in preparing for biological events.

We have witnessed three pandemic flu epidemics over the last century, with the 1918 Spanish flu pandemic being the most severe, causing over 500,000 deaths in the United States and more than 20,000,000 deaths worldwide. Given the disease patterns, historical data indicate that a new pandemic is likely in the near term.

Recent studies suggest that a rapidly spreading strain of avian influenza, which has become endemic in wild birds and poultry populations in some countries, holds great potential of mutating to cause severe disease in humans and possibly the next pandemic flu outbreak.

In the past year, 8 nations—the Republic of Korea, Thailand, China, Vietnam, Laos, Indonesia, and Japan—experienced outbreaks of avian flu (H5N1) among poultry flocks. More recently Croatia, Russia, and Greece have also started to see cases of avian flu in birds and poultry.

There have also been over 100 confirmed human cases reported of this strain of avian influenza (also H5N1), 60 of which resulted in death. Of these cases, 91 were in Vietnam, 17 in Thailand (including one possible human-to-human infection), 4 in Cambodia, and 4 in Indonesia. With no natural immunity to this strain of influenza, which differs from seasonal strains of influenza that have traditionally infected human populations, humans are vulnerable to a possible-mutated version of this virus that would be capable of human-to-human transmission.

By any standard, we are not prepared should a pandemic flu emerge today.

Vaccines needed to protect Americans would take a minimum of six months—and likely longer—to develop. Small stockpiles of anti-viral medication exist, but not in sufficient quantities to protect the vast numbers of people likely to get sick; and we lack a way of urgently increasing production in a timely manner.

Moreover, our cities, states, our nation's healthcare delivery systems, hospitals, and managed care organizations have yet to put together the plans for handling the dramatic increase in patients, for determining priorities for scarce resources and augmenting those for which demand will vastly exceed supply, or for

ensuring the delivery of services to the vast numbers of individuals who may be affected.

Without vaccines or medical countermeasures, the next best option—perhaps the only option—is to put in place disease exposure controls, to reduce as much as possible the likelihood that individuals will pass the disease from one to another.

Disease Exposure Control (DEC) is *the process by which the spread of disease is minimized by limiting contact between uninfected individuals and other individuals who are potential spreaders*⁵ of a contagious disease. DEC programs could help confront possible large-scale outbreaks of contagious diseases, in particular when vaccines or antivirals do not exist, are unavailable, or are insufficient to halt a fast-spreading disease.

DEC programs rely on the use of a number of tools—including infection control, isolation, community restrictions, sheltering-in-place, and even quarantine—that can slow down or perhaps stop the spread of a fast-moving, contagious and potentially deadly disease, in the absence of sufficient medical countermeasures.

Although vaccines and medical countermeasures are much needed, to date, unfortunately, too large a fraction of our national attention has been placed on developing them, and too little on putting into place those disease exposure control programs that might be our only recourse for slowing a pandemic flu.

To be sure, we do need medical supplies, vaccines, and antiviral drugs. We also need to enhance disease surveillance networks for early warning. And we need plans to prioritize, move, and dispense medical countermeasures as well.

But in their absence, and with a possible pandemic on the horizon, the chief medical officer's yet-to-be defined role could be vital in helping delineate these additional tools and protecting public health should a pandemic materialize.

National leadership is needed now.

CSIS is continuing to explore these important issues including how to operationalize disease exposure controls⁶. We would be happy to work with the Committee as we go forward.

Thank you.

⁵ The term “potential spreaders” refers to individuals who either may have been exposed, are incubating, subclinically affected, or are a carrier of a disease. It also includes individuals with active disease.

⁶ For more information, see CSIS Homeland Security Program, Current and Ongoing Projects, Disease Exposure Control at http://csis.org/index.php?option=com_csis_progj&task=view&id=294